

Specifications for an Automated High-throughput
Nucleic Acid Purification System
[Roche MagNA Pure LC 2.0 (05197686001) or better]

The high-throughput nucleic acid purification system must have the following specifications:

- Fully automated, high speed, robotic system able to perform 1-32 purification isolations per batch
- Stand alone bench-top instrument
- High-quality nucleic acids (DNA & RNA) isolated from a broad variety of sample materials (blood, tissue, cultured cells) utilizing Magnetic Bead technology
- The isolated high-quality nucleic acids should be suitable for PCR and RT-PCR reactions on the LightCycler® Instrumentation, as well as other standard block cyclers, and downstream applications
- Precise, piston-driven pipetting
- Automated tip-loss and clotting detection
- Drop catcher that prevents drop loss during movements
- Closed housing with UV-decontamination capability and integrated HEPA filter
- Pre-programmed protocols for up to 32 samples, with sample volume of 20 - 1 ml, 5 - 1000 µl pipetting volume, and 20 - 200 µl elution volumes
- Software-supported reagent handling and sample tracking, including optional barcode reader for automated sample data entry, record keeping and generation of sample information, UV decontamination, report
- Programmable post-elution dispense to assemble PCR reactions and archive samples
- Ability to pipette into 96-well plates, PCR tubes, or strip tubes
- Purification utilizing this system must utilize compatible reagent kits and disposables, developed to accommodate its design and chemistries
- Optional automated, programmable pipetting of post-isolation PCR set-up
- Network-ready
- LIMS compatible output, easy-to-use graphic user interface (GUI)
- Reagents and Disposable Packages that must be included:
Reagents kits, 1 DNA III kit, and 1 Total NA kit, designed to extract nucleic acid from bacterial, fungal, and viral sources. Each kit should contain sufficient reagents for 192 extractions

Disposables:

- Lg reagent tubs
- Lg reagent tub lids
- Sm reagent tubs
- Sm reagent tub lids
- Lg reaction tips
- Sample cartridges
- Cartridge seals
- Processing cartridges
- Tip stands
- Waste bags